

Assignment Day 6 | 7th December 2020

For any doubts regarding the assignment, ask questions in the [Linux Administration 101 B1](#) Group in the Community.

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Question 1

1. Use ps to search for the "systemd" process by name.
2. Find out your terminal name. Using your terminal name, use ps to find all processes associated With your terminal.
3. Check and note the process id of your shell (from the output of the above command).
Also, note the parent process id of your shell.
4. Start 3 instances of "sleep 123" as background processes.
5. Check and note the process id's of all sleep processes.
6. Display only those three sleep processes in top. Then quit top.

1. Using ps command to find systemd process

```
sunam@kali:~$ ps -ef
UID          PID    PPID  C STIME TTY          TIME CMD
root           1        0  0  09:50 ?           00:00:02 /sbin/init splash
root           2        0  0  09:50 ?           00:00:00 [kthreadd]
root           3        2  0  09:50 ?           00:00:00 [rcu_gp]

sunam@kali:~$ ps -ef | grep systemd
root      375      1  0  09:50 ?           00:00:00 /lib/systemd/systemd-journald
root      413      1  0  09:50 ?           00:00:01 /lib/systemd/systemd-udev
message+  635      1  0  09:50 ?           00:00:00 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
root      680      1  0  09:51 ?           00:00:00 /lib/systemd/systemd-logind
sunam    1028      1  0  09:56 ?           00:00:00 /lib/systemd/systemd --user
sunam    1045    1028  0  09:56 ?           00:00:00 /usr/bin/dbus-daemon --session --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
sunam    1819    1792  0 10:01 pts/1       00:00:00 grep systemd
sunam@kali:~$
```

- i. Execute `ps -ef | grep systemd` command to see the details of systemd process.

Systemd is a first program which starts during booting and last program to terminal during shutting down the system.

- ii. We execute the `ps -ef` command which shows all the process, we notice that `init` process took the 1 process ID cause it is the parent process of all process which is executed by the kernel during booting.
- iii. And in second figure, we noticed that all systemd process is the parent process of process having PID 1 i.e. `init` process

2. Display terminal name and process running on that terminal

```
sunam@kali:~$ tty
/dev/pts/1
sunam@kali:~$

sunam@kali:~$ tty
/dev/pts/1
sunam@kali:~$ ps
PID TTY          TIME CMD
1884 pts/1       00:00:00 bash
2482 pts/1       00:00:08 firefox-esr
2602 pts/1       00:00:00 WebExtensions
2640 pts/1       00:00:01 Web Content
2673 pts/1       00:00:03 Web Content
2702 pts/1       00:00:00 Web Content
2705 pts/1       00:00:03 file:/// Content
2780 pts/1       00:00:00 ps
sunam@kali:~$
```

- i. Execute `tty` command on the terminal to know the terminal name
- ii. Execute `ps` command to check the processes running through that terminal

3. Check the process id of your shell and parent id of that shell

```
sunam@kali:~$ ps
  PID TTY          TIME CMD
 1884 pts/1        00:00:00 bash
 2482 pts/1        00:00:37 firefox-esr
 2602 pts/1        00:00:00 WebExtensions
 2640 pts/1        00:00:02 Web Content
 2673 pts/1        00:00:05 Web Content
 2702 pts/1        00:00:00 Web Content
 2705 pts/1        00:00:29 file:// Content
 2852 pts/1        00:00:00 ps
sunam@kali:~$ ps -l
 F S      UID          PID    PPID    C PRI  NI ADDR SZ WCHAN  TTY          TIME CMD
 0 S      1000          1884      1881    0  80   0  - 1982  - pts/1        00:00:00 bash
 0 S      1000          2482      1884    5  80   0  - 702789 - pts/1        00:00:37 firefox-esr
 0 S      1000          2602      2482    0  80   0  - 598557 - pts/1        00:00:00 WebExtensions
 0 S      1000          2640      2482    0  80   0  - 607242 - pts/1        00:00:02 Web Content
 0 S      1000          2673      2482    0  80   0  - 607341 - pts/1        00:00:05 Web Content
 0 S      1000          2702      2482    0  80   0  - 593664 - pts/1        00:00:00 Web Content
 0 S      1000          2705      2482    4  80   0  - 601996 - pts/1        00:00:29 file:// Content
 0 R      1000          2853      1884    0  80   0  - 2139  - pts/1        00:00:00 ps
```

- i. Executing ps command to check the process and we can notice that process ID 1884 has bash process
- ii. Execute ps -l command to see the processes. Refer highlighted part of the figure to see the process id and parent process id of the shell.

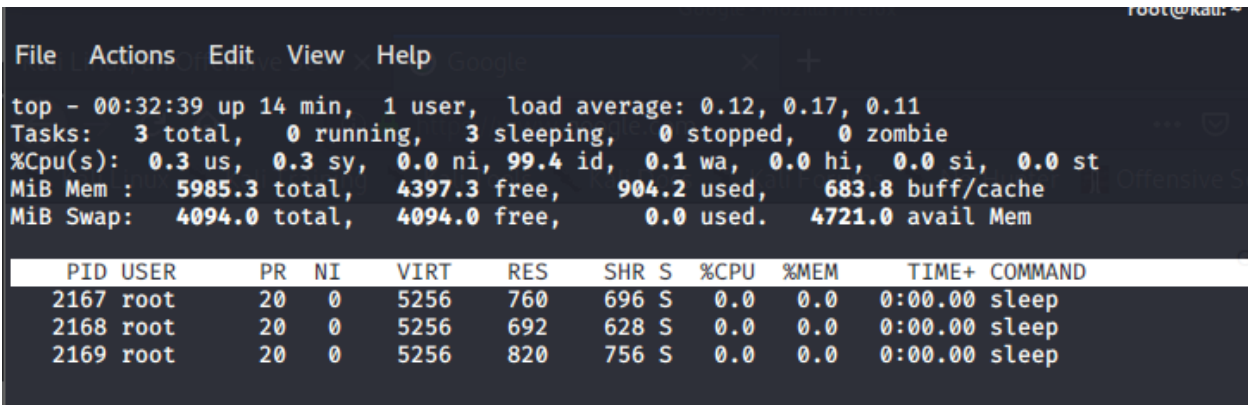
4. Start 3 processes on background named "sleep123" and checking the process id

```
root@kali:~# sleep 123 &
[1] 2167
root@kali:~# sleep 123 &
[2] 2168
root@kali:~# sleep 123 &
[3] 2169
root@kali:~# ps
  PID TTY          TIME CMD
 2041 pts/1        00:00:00 su
 2042 pts/1        00:00:00 bash
 2167 pts/1        00:00:00 sleep
 2168 pts/1        00:00:00 sleep
 2169 pts/1        00:00:00 sleep
 2170 pts/1        00:00:00 ps
root@kali:~#
```

- i. Running 3 instances of sleep123 process on background.
- ii. Execute ps command to check the process ID of those process.

5. Display only those 3 process on top

```
root@kali: ~#  
root@kali: ~# top -p 2167,2168,2169
```



```
top - 00:32:39 up 14 min, 1 user, load average: 0.12, 0.17, 0.11  
Tasks: 3 total, 0 running, 3 sleeping, 0 stopped, 0 zombie  
%Cpu(s): 0.3 us, 0.3 sy, 0.0 ni, 99.4 id, 0.1 wa, 0.0 hi, 0.0 si, 0.0 st  
MiB Mem : 5985.3 total, 4397.3 free, 904.2 used, 683.8 buff/cache  
MiB Swap: 4094.0 total, 4094.0 free, 0.0 used. 4721.0 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2167	root	20	0	5256	760	696	S	0.0	0.0	0:00.00	sleep
2168	root	20	0	5256	692	628	S	0.0	0.0	0:00.00	sleep
2169	root	20	0	5256	820	756	S	0.0	0.0	0:00.00	sleep

- i. Execute “top -p [PID1,PID2,PID3]” to see the sleep123 process on top.

Thank You!